

CATALYST™ SOFTWARE FEATURES



Software version 02.5

ATI.com

New Direct3D™, OpenGL® and Options pages in the control panel

• SUMMARY

The Direct3D™, OpenGL® and Options pages of the ATI display properties control panel have undergone significant changes in order to make them more consistent, user-friendly, and most importantly, more functional.

User control and ease-of-use were the primary design goals of the new Direct3D™ and OpenGL® control panels as seen in **Figure 1**. One of the ease-of-use goals was to make the Direct3D™ and OpenGL® control panels as similar as possible to one another, which up to this point has not been the case for most graphics accelerator control panels.

The Direct3D™ and OpenGL® control panels have been divided into 2 sections, “Main Settings” and “Custom Settings”. The “Main Settings” slider allows users to easily configure their application experience without having to understand what “Anisotropic Filtering” or “Mipmap Detail Level” mean. Advanced users can easily override the “Main Settings” slider and setup any custom configuration they desire, by simply moving the sliders found in the “Custom Settings” section of the control panel.

Figure 1

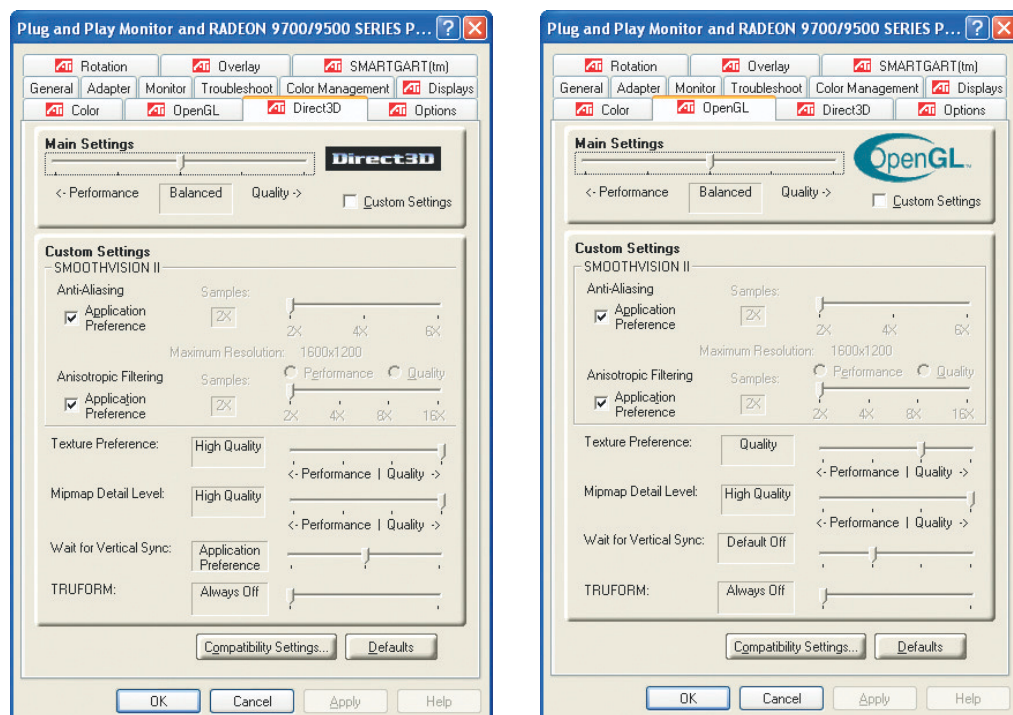


Figure 1: The new Direct3D™ and OpenGL® control panels provide an improved user experience and offer a much greater level of user flexibility.

The new Options page seen in **Figure 2** contains detailed information about the driver version. If the user clicks on the Details button, they gain access to a list of graphics accelerator specs.

Figure 2

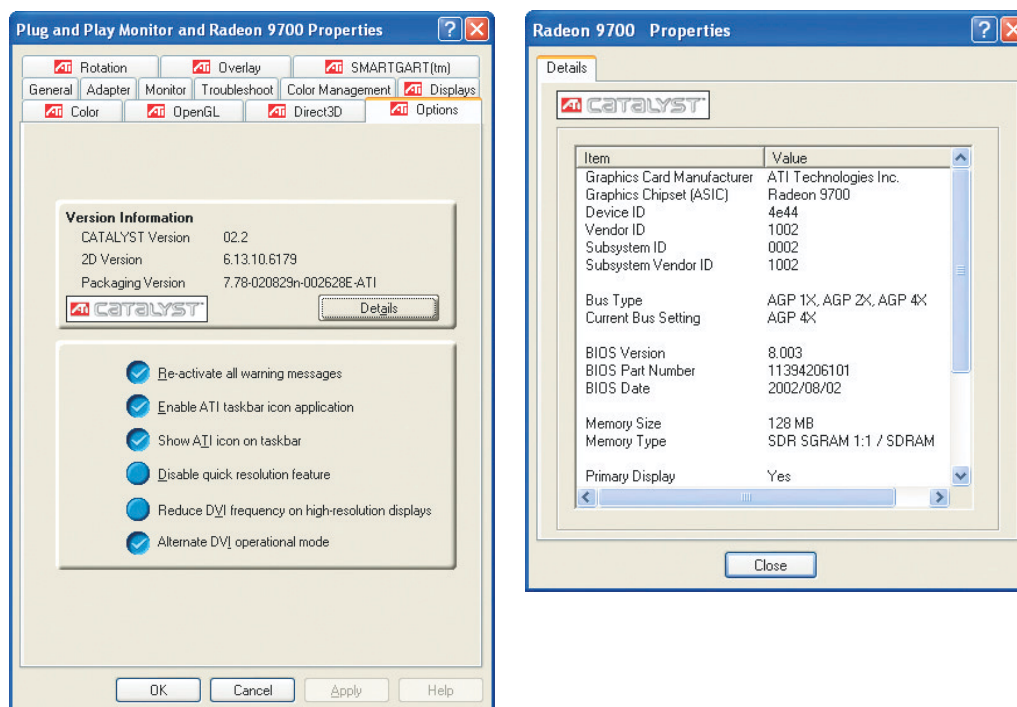


Figure 2: The new Options and Details pages of the control panel provide users with in depth information about the driver and graphics accelerator specs.

• FEATURE DESCRIPTION

Main Settings

The Main Settings slider gives you the ability to configure the settings of your graphics processor. Moving the slider to the left maximizes overall performance, whereas moving the slider to the right enhances overall image quality. When the Main Settings slider is moved, the individual Custom Settings sliders change to reflect the Main Settings slider position.

Custom Settings

When the Custom Settings button is checked the Main Settings slider becomes disabled, allowing you to configure the individual controls found within the Custom Settings area of the control panel.

Anisotropic Filtering

Anisotropic filtering enhances 3D image quality by increasing the number of texture samples taken per pixel, resulting in highly detailed 3D scenes.

The number of samples taken when anisotropic filtering is performed can vary. As the number of samples taken increases, the quality of the final image increases significantly.

The benefits of using Anisotropic Filtering are demonstrated in the images below. The image in **Figure 3** does not have anisotropic filtering applied whereas the image in **Figure 4** uses 16X anisotropic filtering. Note the superior texture quality of the image using 16X anisotropic filtering.

Figure 3



Figure 3: Image without anisotropic filtering.
Image from Quake III Arena © 1999-2001 id Software, Inc.

Figure 4



Figure 4: Image with 16X anisotropic filtering applied.
Image from Quake III Arena © 1999-2001 id Software, Inc.

SMOOTHVISION™/Anti-aliasing

SMOOTHVISION™/Anti-aliasing enhances 3D image quality by softening the jagged edges found in 3D scenes, providing smoother, more realistic 3D objects. Increasing the number of samples results in better image quality.

The benefits of using SMOOTHVISION™/Anti-Aliasing are demonstrated in the images below. The jagged edges found in **Figure 5** appear smoother in **Figure 6**.

Figure 5



Figure 5: Image without anti-aliasing applied.
Image from Quake III Arena © 1999-2001 id Software, Inc.

Figure 6



Figure 6: Image with 2X anti-aliasing applied.
Image from Quake III Arena © 1999-2001 id Software, Inc.

Texture Preference

The Texture Preference slider enables you to select the texture quality level. Moving the slider to the left engages a set of optimizations that may slightly degrade texture quality, but provide increased frame rates. Moving the slider to the right disengages these optimizations, providing maximum texture quality at the right-most setting.

Mipmap Detail level

The Mipmap Detail Level slider enables you to adjust the mipmap quality level. Mipmaps are a set of texture maps of differing size and resolution used to represent a given texture. The texture map used for a 3D object is determined by the application, based on how close you are to the surface being viewed and the Mipmap Detail Level slider setting. Maximize overall performance by moving the slider to the left. Enhance overall image quality by moving the slider to the right.

Wait For Vertical Sync

Limits the frame rate of applications to the refresh rate of your display device. Within the D3D control panel three options are now available to the user: Always Off, Application Preference, and Always On. Within the OpenGL® control panel four options are now available to the user: Always Off, Applications Preference (Default Off), Application Preference (Default On), and Always On.

TRUFORM™

TRUFORM™ uses higher order surface geometry to generate more detailed and realistic terrain and character models for applications that support TRUFORM™ technology. Note that only the RADEON™ 8500, RADEON™ 9000, RADEON™ 9000 PRO, and RADEON™ 9700 PRO are capable of supporting TRUFORM™.

Compatibility Settings...

Provides advanced settings for resolving incompatibilities with certain applications. **Figure 7** shows what options are available in both the Direct3D™ and OpenGL® Compatibility Settings pages. Note that options available will change depending upon which ATI graphics accelerator you are using. In general these settings should be left at their defaults unless you are experiencing problems with a particular application.

Figure 7

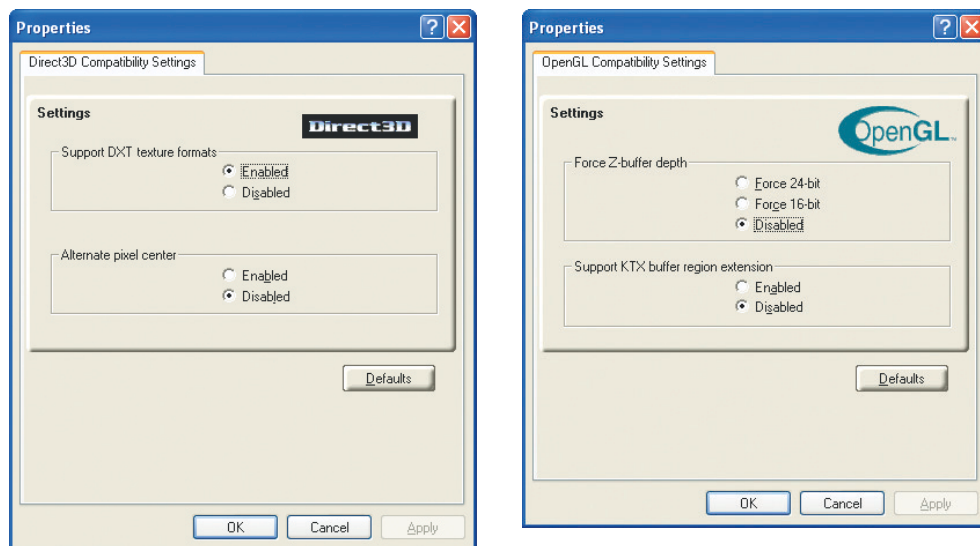


Figure 7: Both Direct3D™ and OpenGL® control panels provide access to a compatibility settings page that allows user to change advanced options to overcome compatibility issues they might be having.

• USER BENEFITS

- a.) A much more user-friendly interface that can be used to easily change a variety of different settings within the control panel.
- b.) Novice users can easily change the overall performance or quality experience of any application without having to worry about the intricacies of how a 3D accelerator works when using the Main Settings slider of the Direct3D™ and OpenGL® panels.
- c.) Advanced users can easily configure a variety of very specific parameters to best meet their needs through the Custom Settings controls and Compatibility Settings... pages located within the Direct3D™ and OpenGL® panels.
- d.) Detailed information about the driver and the graphics accelerator can be easily accessed in the Options page of the control panel.

• USAGE SCENARIO

You've just purchased the latest 3D-accelerated game, but to your dismay the visual quality and texture detail just isn't as high as you expected. With the new CATLAYST™ Direct3D™ and OpenGL® control panel, this is no longer a problem! All you have to do is move the "Main Settings" slider to the "Optimal Quality" position in either the Direct3D™ or OpenGL® panel. This allows you to experience the best visual quality possible without having to worry about the complexities of how or what Anti-aliasing, Anisotropic filtering or mipmaps are.

SMARTGART™

• SUMMARY

Many AGP bus errors have arisen as a result of AGP bus controllers ("chipsets") and motherboards found in the marketplace not being compatible with one another. Many of these bus errors will either cause video corruption or users systems to hang. To solve this problem, ATI Technologies has developed a software testing and diagnostics tool known as SMARTGART™ as seen in **Figure 8**. SMARTGART™ performs a variety of AGP tests and determines the optimal AGP setting to ensure system stability.

• FEATURE DESCRIPTION

SMARTGART™ automatically tests the AGP compatibility upon the initialization of the display driver, and dynamically determines the proper AGP bus speed based on the results of the test. If a new AGP setting is required and the system must reboot, the driver will automatically set the new bus speed on the next reboot.

The diagnostic tests will only be run on the system when the driver is installed for the first time, or when the system configuration is changed.

Figure 8

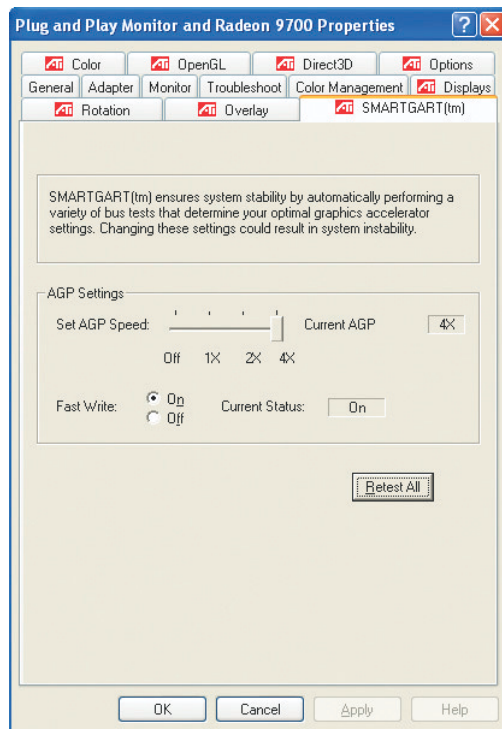


Figure 8: SMARTGART™: Performs a variety of AGP tests and determines the optimal AGP setting to ensure system stability

• USER BENEFITS

- a.) Users will no longer experience visual artifacts or system crashes as a result of AGP compatibility issues.

• USAGE SCENARIO

You've put together your own system, and you've noticed your system seems to crash a lot when you try playing games, or when using any graphics application. The simple solution is to just download ATI's new CATALYST™ software package, and install it on your system. SMARTGART™ will automatically configure your system so that your AGP bus is configured to the most stable setting. Graphic related applications will never crash as a result of AGP bus errors again!

HYDRAVISION™ 3.2

SUMMARY

HYDRAVISION™ is ATI's multi-display management software for increasing your productivity by controlling and managing multiple applications over multiple displays.

HYDRAVISION™ allows you to take control of your application windows and dialog boxes, organize your desktop and includes special menu features. Using multiple displays and trying to control numerous windows or applications can be overwhelming. HYDRAVISION™ solves these problems with the following key components:

- **Desktop Manager**
- **Hot Keys**
- **HydraFX**
- **Special Menu Features**
- **MultiDesk**
- **Wizard**

• **FEATURE DESCRIPTION**

HYDRAVISION™ 3.2 includes new features and improvements that improve the overall user experience.

MultiDesk:

1. **Save/Restore and Remove Desktop:** These new features allow the user to save all applications that are opened, including the application's position, to one of the nine available Desktops. Once saved, you can restore or remove these profiles.
2. **Clear Desktop:** Provides a method to clear (move) all applications running on the current Desktop to any of the other nine Desktops.
3. **Set Desktop Background:** Provides the flexibility to select a different background for each Desktop.
4. **Application List Menu:** Displays a list of all opened applications for all nine Desktops.

HydraFX:

- **MagnifyFX:**

- a) **Magnification Level**
- b) **Define Area**
- c) **Follow cursor**
- d) **Follow Box**
- e) **Fixed Area**
- f) **Transparent**
- g) **Copy magnified image to Clip board**

The Magnify FX feature enables the user to select an area on their Desktop and magnify the contents to a separate display window. The user can also control the magnification level and size of the desktop area to magnify.

• USER BENEFITS.

HYDRAVISION™ 3.2 provides users with many benefits, two of which are highlighted below:

- a.) In HYDRAVISION™ 3.2 a new set of features called “Save, Restore and Remove” have been added to increase the productivity and usefulness of MultiDesk.
- b.) MagnifyFX provides the user with the ability to select an area on their desktop to be magnified and displayed in a separate window (Display Window).

• USAGE SCENARIO

You're a PC power user who loves to multi-task; watching your stock portfolio on your favorite web site, opening up new interesting links, editing documents in Word and playing the latest video DVD. But constantly having to resize all of your application windows with just two monitors is starting to become a very frustrating exercise. With HYDRAVISION™ 3.2 this former two-monitor limit is eradicated! Setting up and using your multi-monitor solution as has never been easier!

MULTIMEDIA CENTER™ 7.7

• SUMMARY

ATI's Multimedia Center™ (MMC) continues to evolve with new features as part of MMC 7.7. The Multimedia Center is a full suite of software applications that allows users to get the most out of their multimedia experience and ATI graphics and/or TV products. Applications include a TV Player, DVD Player, CD Audio Player, VideoCD Player, File Player, Media Library and Stills Gallery. Note that the number of applications available to the user varies depending on the product.

With MMC 7.7 a number of new features have been added including DVD Chapter Preview feature, support for non-supported DVD subtitles, and a number of video capture developments including support for true 48kHz audio for DVD compliant capture, support for SVCD capture, and improved MPEG-2 encode quality. All this, in addition to a new design focus on enhanced stability.

In MMC 7.7 another new optional skin, Tranquility, is being introduced for use with the TV Player, DVD Player and Stills Gallery applications. See **Figure 1** for an image of the Tranquility skin with the TV Player.

Figure 1



Figure 1: New optional skin with MMC 7.7 available with TV Player, DVD Player and Stills Gallery applications.

• FEATURE DESCRIPTION

New User Interface

MMC 7.7 gives you the choice of three user interfaces for many of the MMC applications; Classic, Modern and Tranquility (TV Player, DVD Player and Stills Gallery). Choose your favorite, mix and match and get a look that reflects your style.

Chapter Preview

Chapter Preview is a feature of the DVD Player and is used in conjunction with the Bookmark feature (new to MMC 7.5). Bookmarks allow you to set markers within a DVD movie to return to for later viewing. With the Chapter Preview feature, when a bookmark is restored, you can watch the first 10 seconds of each chapter before the bookmark as a reminder of what you've previously watched.

DVD Subtitle Support

Often called "DVD-Subber" files, these are external files that allow you to add subtitles to a movie when the necessary language isn't offered on the disc. For example, you can add English sub-titles to a Japanese disc. In addition, you have the ability to search and seek through the sub-title content – using it as a transcript of the disc.

Video Capture Enhancements

SVCD Compliant Capture: Now you can capture video directly in a Super Video CD (SVCD) compliant format.

48kHz Audio Support: Capture your favorite TV shows as a DVD compliant MPEG-2 video file with true 48kHz audio to watch at a later time, create your own home movie and share with friends.

• USER BENEFITS

- a.) An enhanced multimedia experience with a complete suite of applications.
- b.) A new user interface that allows you to customize the TV Player, DVD Player and Stills Gallery to reflect your own unique style.
- c.) A mature feature set that lets you get the most out of each application.
- d.) Improved MPEG capture that records TV shows or home movies while maintaining an amazing level of video quality.

• USAGE SCENARIO

You've rented a great DVD movie and you've just bought an ATI graphics card that came with MMC 7.7. You pop some popcorn, put the DVD into your computer, launch the MMC DVD Player and are about to enjoy – but it is in Japanese, without subtitles! No worries, you've got the external DVD English subtitles that ATI's DVD Player supports and you are soon watching & enjoying the movie. Part way through you decide it is time for bed, but don't want to miss your spot in the movie, so you bookmark it. The next day when you sit down to watch the movie again, it starts up right where you left off – and with the Chapter Preview feature you are able to view the first 10 seconds of the chapter to remind you of what was going on.

REMOTE WONDER™

• SUMMARY

REMOTE WONDER™ gives you the ability to operate your PC mouse without being tied to your system by a cable. REMOTE WONDER™ is simple to install and operates using radio frequencies that work through walls. Enhance your RADEON™ products with REMOTE WONDER™ and enjoy the freedom to roam.

Figure 1



Figure 1: . ATI REMOTE WONDER™ radio-frequency (RF) remote control lets you control your PC from another room in the house – no line of sight needed.

• FEATURE DESCRIPTION

The new REMOTE WONDER™ Plug-in API extension will be supported by a large number of applications, and will employ an “open source” SDK known as “AMMO”. AMMO will allow developers and OEMs to quickly extend the functionality of the ATI Remote Wonder remote control by creating **Application Manipulation Modular Objects** to control practically any software running under Windows.

Plug-ins are available on the web for many applications, including:

- WinAmp 2X plug-in (with full source) which is included with the REMOTE WONDER™ installation software
- Microsoft® PowerPoint
- DivX Player
- Microsoft® Windows Media Player 8
- And many more...

New features of the REMOTE WONDER:

- Gives users the ability to start arbitrary Windows application, as well as Windows Start and Shutdown commands
- Supports keying the remote (choose one of 16 codes) to prevent interference with other remotes
- Adjust the speed and acceleration of the REMOTE WONDER™ mouse pad
- Re-map the Hand key to simulate click & drag, a mouse middle button or simulate a mouse wheel
- Control MultView™ PIP when you have an ALL-IN-WONDER® 9700 PRO running in the same system as a TV WONDER™

• USER BENEFITS

- a.) REMOTE WONDER™ gives you complete control of your PC, through walls, around corners and even through floors.
- b.) Allows for many new creative uses for your PC.

• USAGE SCENARIO

Whether you use the REMOTE WONDER™ to control your personal music jukebox, as a portable notebook presentation tool, a home video server controller, or a full-on home-theater remote, the power is now in your hand!

Figure 2

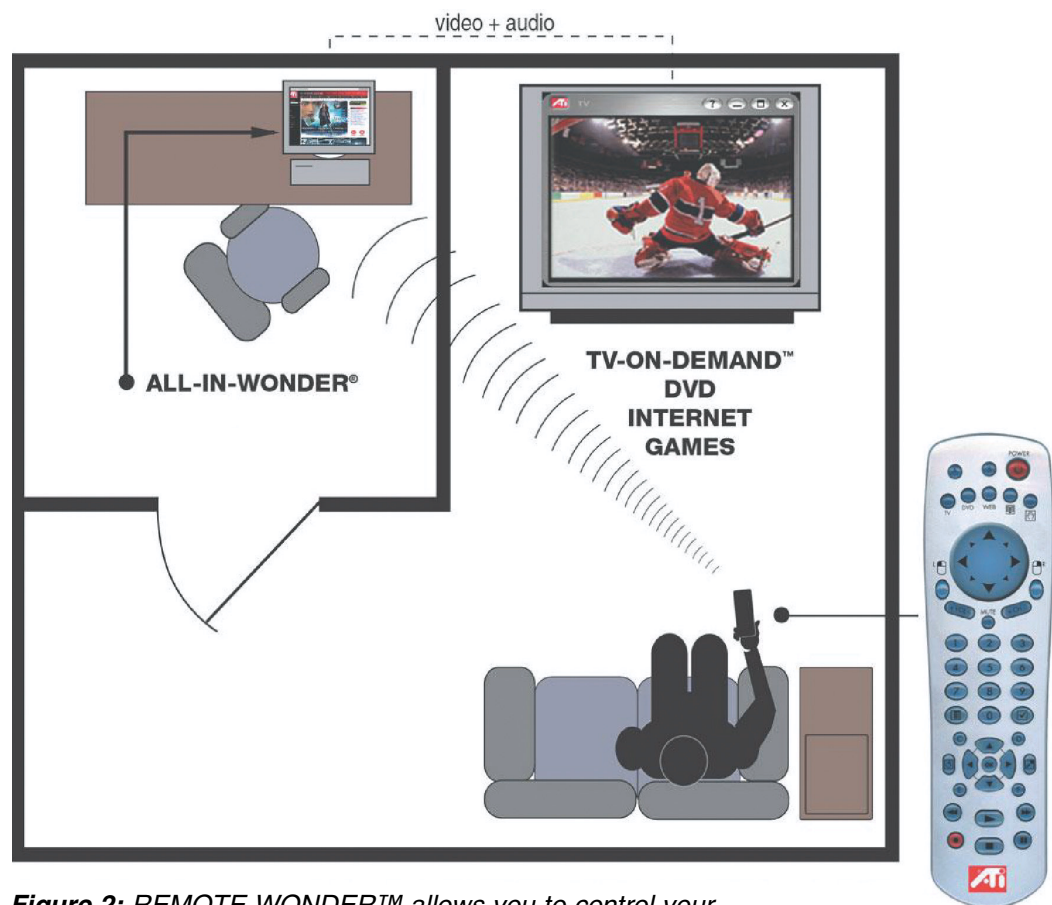


Figure 2: REMOTE WONDER™ allows you to control your PC-based home theater from another room.

HDTV Component Video Adapter

• SUMMARY

ATI's new Component Video Adapter lets you create a complete home theatre experience by connecting your PC to your HDTV (high definition television) or component input device for the highest quality video display. The Component Video Adapter will enable component output from your PC using an ATI RADEON™ 8500 product; RADEON™ 8500 graphics only and/or ALL-IN-WONDER® RADEON™ 8500 multimedia family of products.

Figure 1

A)



B)

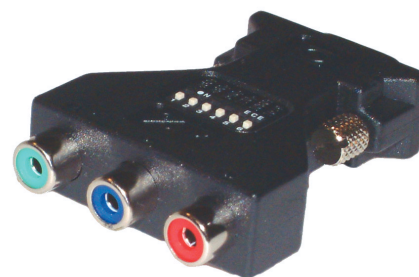


Figure 1: HDTV Component Video Adapter a) DVI to YPrPb Adapter for ALL-IN-WONDER® RADEON™ 8500, ALL-IN-WONDER® RADEON™ 8500DV, RADEON™ 9700 Series, and RADEON™ 9500 Series b) VGA to YPrPb Adapter for RADEON™ 8500 class graphics only cards.

Figure 2

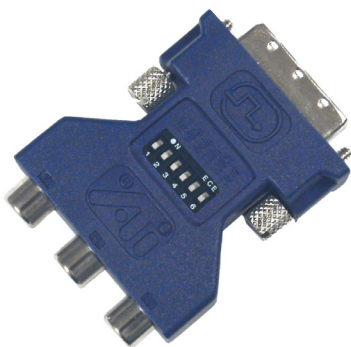


Figure 2: Component Video Adapter (DVI to YPrPb) top view showing the DIP switches used to set component output modes of the HDTV or component output display.

• FEATURE DESCRIPTION

Component Out allows you to connect your personal computer to high quality displays with component input, such as HDTVs. This allows you to use your HDTV (or other component input device) as your computer display through the Component Video Adapter to experience the highest quality video display. This enables users to experience picture perfect quality while watching DVDs, gaming or surfing the Internet. Component out supports 480i (interlaced), 480p (progressive), 720p and 1080i formats. Choose the mode that gives you the best display for your HDTV.

• USER BENEFITS

- a.) ATI's Component Video Adapter provides the highest quality method to deliver HDTV support.
- b.) Get all the benefits and applications from your PC on your HDTV – watch DVDs, surf the Internet, watch TV (with ALL-IN-WONDER® products) or experience larger-than-life gaming.

• USAGE SCENARIO

You own an ATI RADEON™ 8500 graphics card and have a wicked home theatre set up in your living room, including an HDTV. You want to experience the picture quality of your HDTV and have access to all the applications on your PC – you want a crystal clear picture when playing Max Payne! You buy the Component Video Adapter from www.ATI.com, install the driver, connect to your HDTV and suddenly you're experiencing the highest quality video display while gaming, surfing the net or watching DVDs!

• LIMITATIONS OF COMPONENT OUTPUT

Entire Image not visible on the display: TVs overscan images, typically 5%, and this can result in part of the image being cut off the display. The amount of the image not seen will vary with each HDTV and between each timing chosen, for example more overscanning may be noticeable with 1080i than 480i. The effect is minimized with 720p, therefore, if your HDTV supports 720p, it is recommended to use this mode.

ATI is working on a software update for Component Output to overcome the limited number of modes supported by certain lower quality HDTV's.

DVDs will not play in 720p or 1080i mode: Macrovision protected DVDs will not play in 720p or 1080i mode, the supported modes are 480i and 480p. This is a limitation of CSS-encryption enforced by Macrovision.

Upon starting system/reboot there is no display: A component output display will not be visible until the Windows display is enabled; this may take several minutes. Component output display is not supported in DOS.

Other Checks: Ensure that the HDTV Component Video Adapter is connected, that the Y-Pr-Pb cables are connected properly and that the HDTV is set for YPrPb input.

Single Display: Component Output is a single display feature and will not work simultaneously with TV Output (ALL-IN-WONDER® cards) or with VGA monitors (Graphics only cards).



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